AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 3. This sheet, which includes Fig. 2, replaces the original sheet including Fig. 3. In Fig. 3, the name of the manufacturer of the illustrated valve has been deleted.

Attachment: Replacement Sheet
Replacement Sheet Showing Changes

REMARKS/ARGUMENTS

A. In the Information Disclosure Statement

In section 1 of the Office Action, the Examiner has stated that the references cited in the Search Report have not been considered.

The Examiner is respectfully directed to MPEP 1844 which states, in relevant part:

> The search report will be published by the International Bureau and, together with the written opinion of the International Searching Authority, *will serve as a basis for the examination of the international application by the designated Offices* and the International Preliminary Examining Authority.
>
> (emphasis added).

Because the USPTO is acting as a designated office, under the definition of 37 CFR 1.414, Applicant has not provided an Information Disclosure Statement ("IDS") in good faith, believing that the Search Report would be included in the examination of the present application.

In order to be responsive to the Examiner's request, Applicant is enclosing an IDS that includes copies of all cited foreign references. Applicant is respectfully requesting that this IDS be made of record.

B. In the Drawings

In Fig. 3, the name of the manufacturer of the illustrated valve has been deleted. No new matter has been added.

C. In the Claims

Claims 1-41 are pending in the application. Claims 1 and 41 have been amended. Therefore, upon entry of the present amendment, claims 1-41 will be subject to examination.

1. Regarding the First Rejection under 35 USC 103(a)

Reference is made to sections 2-4 of the Office Action. Claims 1-2, 10, 13, 15, 18-19, 21-22, 24, 26-27 and 32-34 have been rejected as allegedly obvious over USPN 4,214,604 to Ramsey ("Rumsey") in view of USPN 3,631,882 to White, Jr. ("White"). Claim 41 has been rejected as allegedly obvious over Rumsey in view of White and of USPN 6,102,071 to Walton et al. ("Walton"). Because Applicant's claims are patentably distinguishable over the combination of Rumsey and White; and of Ramsey, White and Walton; the above rejections are respectfully traversed.

Rumsey discloses a straight through flow diaphragm structure. *Rumsey*, Title; col. 8, ll. 60-66. The contact between the diaphragm and the valve seat is located "substantially below the longitudinal axis A of the passage 12." *Rumsey*, col. 4, ll. 18-23.; Fig. 1. The inlet and outlet areas are each composed of straight, inwardly sloped walls 38 that, at a transition wall 40, acquire a flat, straight shape on the upper side of the inlet/outlet areas. *Rumsey*, col. 4, ll. 28-37; Fig. 1.

On the contrary, Applicant's disclosure is directed at a diaphragm valve having inlet and outlet sleeves that arch upwards to join at the valve seat beneath the diaphragm. *Applicant*, Fig. 3. The location of the valve seat is shown as situated above the longitudinal axis of the valve, although no restriction is made as to the vertical position of the valve seat. *Applicant*, Fig. 3. The longitudinal profiles of the inlet and outlet sleeves are longitudinally arched until contact is made with the vertical wall of the valve seat, where those sleeves acquire a semi-elliptical shape at the valve seat, the semi-elliptical shape having a straight lower side that forms one side of the vertical wall. *Applicant*, Figs. 1-3.

Therefore, the limitations of Rumsey's and of Applicant's invention are patentably different. Further, the combination of Rumsey with White does not cure the deficiencies of Rumsey.

In particular, White discloses a diaphragm valve having a diaphragm in molded TFE, with the head of a metal stud embedded in a boss formed on the backside of the diaphragm at its domed center. *White*, col. 2, ll. 29-31; Fig. 2. The diaphragm includes two layers of fabric

reinforcement. *White*, col. 2, ll. 35-35; Fig. 2. None of these limitations is present in Applicant's invention.

Walton discloses an elastomeric element valve having a case inserted at the valve seat to regulate flow. *Walton*, Abstract; Fig. 1. On the contrary, Applicant's meter device is positioned in the inlet sleeve. *Applicant*, paragraph [0079] of the published application. Beyond this difference, the above described limitations of Rumsey do not make a combination with White obvious to produce Applicant's invention for the above stated reasons.

Nothing in the cited prior art suggests the desirability of modifying Rumsey with White and, for claim 41, also with Walton to produce Applicant's invention. As shown, Rumsey teaches away from Applicant's invention. Additionally, Applicant's invention provides new solutions to problems in the prior art valves that relate to the bulging of the diaphragm under pressure and to the inability to efficiently manufacture valves in plastic materials. See, e.g. *Applicant*, paragraphs [0054] and [0065] of the published application. These solutions are not provided by a combination of Rumsey and White.

In order to point out his invention with greater clarity, Applicant has amended claims 1 and 41 to recite that the inlet and outlet sleeves have "converging arched profiles," that the semi-elliptical shapes of the sleeves at the valve seat have a flattened portion that is located in a "central" position of the valve seat, and that "the semi-elliptical shape [is] defined by an arched portion on the outer side and a flattened potion on the inner side, the semi-elliptical shapes converging at the valve seat to provide the substantially elliptical curvature."

Claim 41 has been further amended to recite that the measuring device is integrated with the "inlet sleeve" of the valve body. No new matter has been added.

Because independent claim 1 is non-obvious, dependent claims 2, 10, 13, 15, 18-19, 21-22, 24, 26-27 and 32-33 are non-obvious *per se*. When an independent claim is nonobviouos, then any claims depending therefrom are nonobvious. MPEP 2143.03, citing *In re Fine*, 837 F.2d 1071 (1988).

Concerning independent claim 34, the combination of Rumsey and White also do not teach or suggest the claimed invention. *See,* e.g., the above discussion of the White reference, indicating that the diaphragm elements in White are patentably different from Applicant's elements.

In view of the foregoing, the withdrawal of the first rejection under 35 U.S.C. 103(a) of claims 1-2, 10, 13, 15, 18-19, 21-22, 24, 26-27, 32-34 and 41 is respectfully requested.

2. Regarding the Second Rejection under 35 USC 103(a)

Reference is made to section 5 of the Office Action. The Examiner has rejected claims 1-21 and 23-41 as allegedly obvious over USPN 6,095,484 to Frenkel ("Frenkel") in view of Rumsey and of USPN 3,310,280 to Boteler ("Boteler"). Because Applicant's invention is patentably distinguishable over the combination of Frenkel with Rumsey and Boteler, the above rejection is respectfully traversed.

Frenkel discloses a spring diaphragm for shut-off valves and regulators consisting of two storeys connected to one another. *Frenkel*, title; col. 2, ll. 50-52. The most significant feature of Rumsey's teachings is that the springy ribs positioned in each of the storeys have different functions. *Frenkel*, col. 3, ll. 66-67; col. 4, ll. 1-2; Fig. 1.

On the contrary, Applicant discloses a ribbed, single storey, elliptical diaphragm having ribs disposed in certain described patterns that provide for a compact and essentially bulge-free operation of the diaphragm. *Applicant*, paragraphs [0054]-[0063] of the published application; Figs. 6-8.

The Office Action has cited Fig. 5 of Frenkel and states that Frenkel discloses a valve having substantially the same elements as claimed by Applicant. Applicant respectfully disagrees. While Fig. 5 of Frenkel shows a valve having arched inlet and outlet sleeves, Frenkel is totally silent about valve construction, and one can only speculate as to how that valve may be constructed in its various components. Frenkel also requires the use of a diaphragm that is patentably different from Applicant's, as demonstrated above. Additionally, Rumsey and Boteler

do not add the elements missing in Frenkel, which anyways contains limitations patentably different from Applicant's teachings.

Applicant acknowledges that USPN 2,309,479 to Saunders, USPN 5,632,465 to Cordua, British PN 321,892 to Saunders, British PN 533,116 to Saunders, and French PN 2 815 108 to Commissariat á l'Energie Atomique (all cited in the IDS) disclose valve configurations having curved inlet and outlet sleeves. However, Applicant's invention contains features that are novel over each of these references, in the same manner as each of these references contains novel features over the other references, in spite of the commonality of the arched profiles.

As to Applicant's unique features, Rumsey and Boteler are cited in the Office Action to support the proposition that "it is generally well known in the art for diaphragm valves to include inlet and outlet sleeves having an elongated shape."

Applicant respectfully responds that a rejection under section 103 is proper only when the subject matter of the invention under consideration is considered "as a whole," and all the subject matter defined in the related claims is considered, not part or most of it. *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861 (1985); *Door-Master Corp. v. Yorktowne, Inc.*, 256 F.3d 1308 (2001). A "combination of old elements" argument leads improperly to an analysis of the claimed invention by its parts, instead of by its whole as the Statute requires. *Custom Accessories, Inc. v. Jeffrey-Alan Industries, Inc.*, 807 F.2d 955 (1986). It is error to reconstruct a patentee's claimed invention from the prior art by using the patentee's claims as a blueprint. *W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d 1540 (1983). Something in the prior art must suggest the desirability, and thus the obviousness, of making the combination proposed by the Examiner. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044 (1988).

In the instant case, when the combination of Frenkel, Rumsey and Boteler are considered together, the claimed structure is not reproduced, because Frenkel tries to resolve the problem of the bulging diaphragm by teaching a patentably different diaphragm from Applicant – and, consequently, by teaching a patentably different valve structure. Additionally, the combination of Frenkel, Rumsey and Boteler does not disclose nor suggest the various constructive details taught by Applicant that provide for a valve structure that is compact, prevents the bowing and early wear of the diaphragm, improves the sealing effect of the diaphragm, is low cost, and can

be efficiently manufactured in a plastic material. On the contrary, Rumsey teaches away from Applicant's invention, by explicitly requiring a different valve structure from Applicant's, as detailed above.

The same considerations apply to a combination of Rumsey and Boteler with each of the references cited in the IDS.

Therefore, the present rejection appears to be based on impermissible hindsight, because nothing in the prior art teaches or suggests the desirability of the proposed combination, while on the contrary a key reference, Rumsey, teaches away from Applicant's invention.

Therefore, the withdrawal of the second rejection under 35 U.S.C. 103(a) is respectfully requested.

CONCLUSION

In view of the amendments and remarks submitted herein, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

If it is felt that direct communication would serve to advance prosecution of the present application, the Examiner is invited to contact the undersigned attorney of record, Franco A. Serafini, by telephone, fax, or e-mail.

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Respectfully submitted,

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